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# **Ambrose Channel Sand Mining**

## **Industry Briefing**

**27 June 2003**



***NY&NJ Harbor Deepening Project  
Ambrose Sand Mining Initiative***

# Agenda

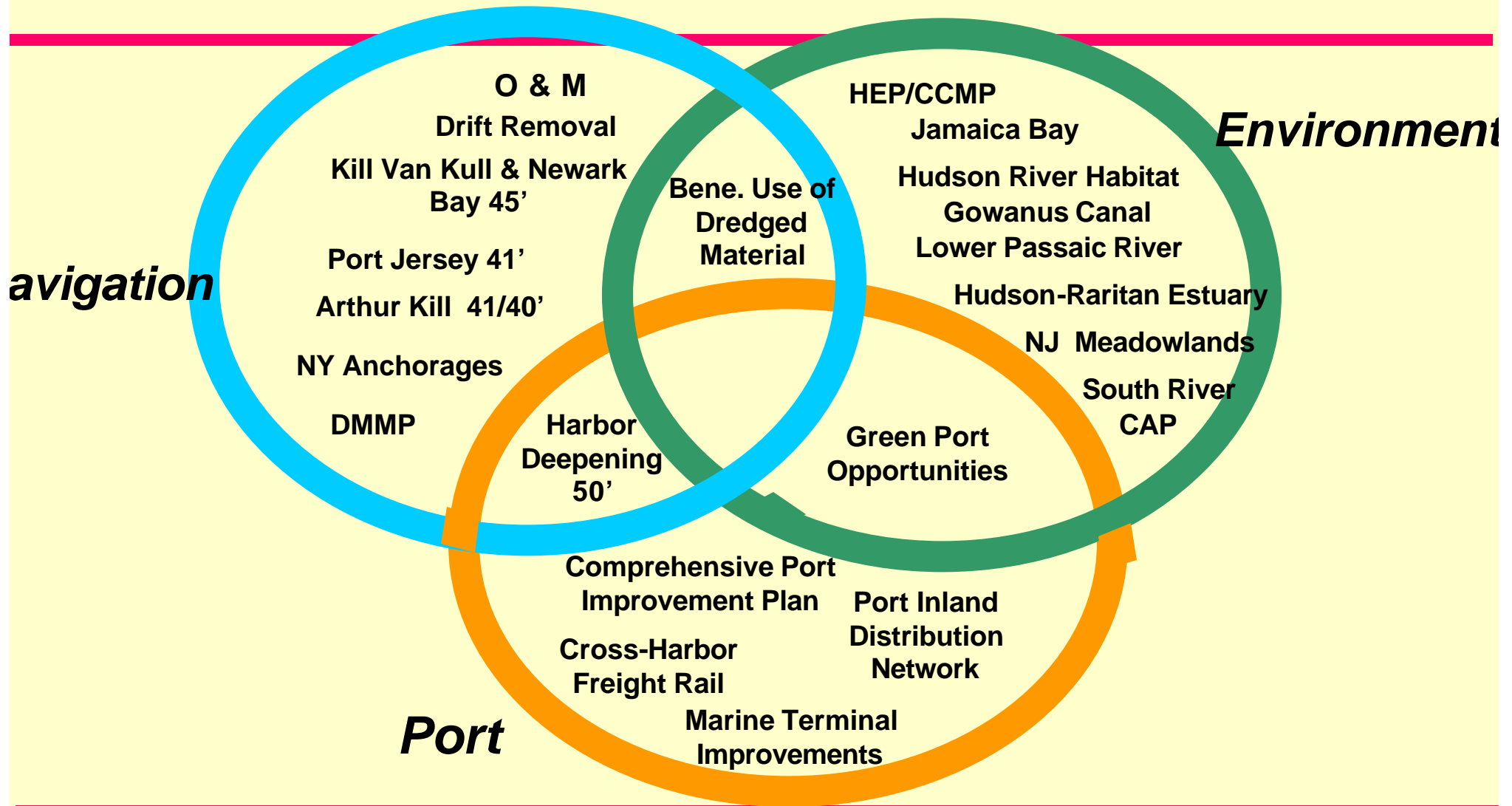
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- |   |                 |
|---|-----------------|
| • Welcome                               | Mark Lulka      |
| • Introductory Remarks                  | Joe Seebode     |
| • Current Placement Options             | Mark Lulka      |
| • NYC Restoration / Remediation Example | John McLaughlin |
| • Material Characterization             | Mark Lulka      |
| • Goals / Questions?                    |                 |



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# Vision for the NY&NJ Harbor and World Class Estuary



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# Kill Van Kull & Newark Bay Channels

## DESCRIPTION:

channel deepening from 40 ft to 45 ft.

## STATUS of 9 CONSTRUCTION AREAS:

- Completed: Areas 1, 2, 3, 4a & 7
- On-Going Work:
  - Area 6 (Feb 04 Completion)
  - Area 5 (Feb 04 Completion)\*
  - Area 8/4b (Dec 04 Completion)

\*Note: Includes 50' Permitted work

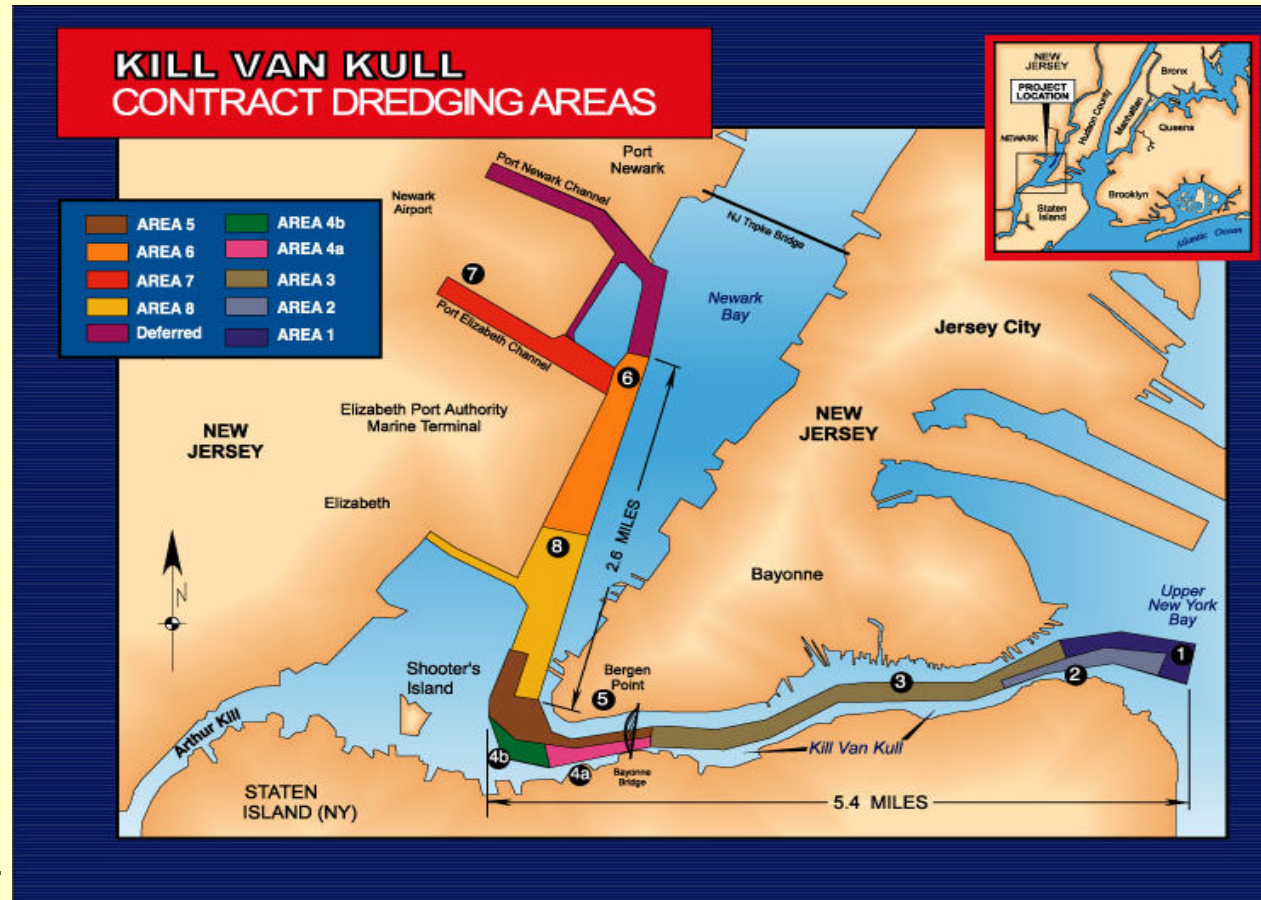
**PLANNED COMPLETION:** Dec 2004

**TOTAL PROJECT COST:** \$733 million

**SPONSOR:** Port Authority of NY & NJ

**POINT-OF-CONTACT:** Harold Hawkins P.E.

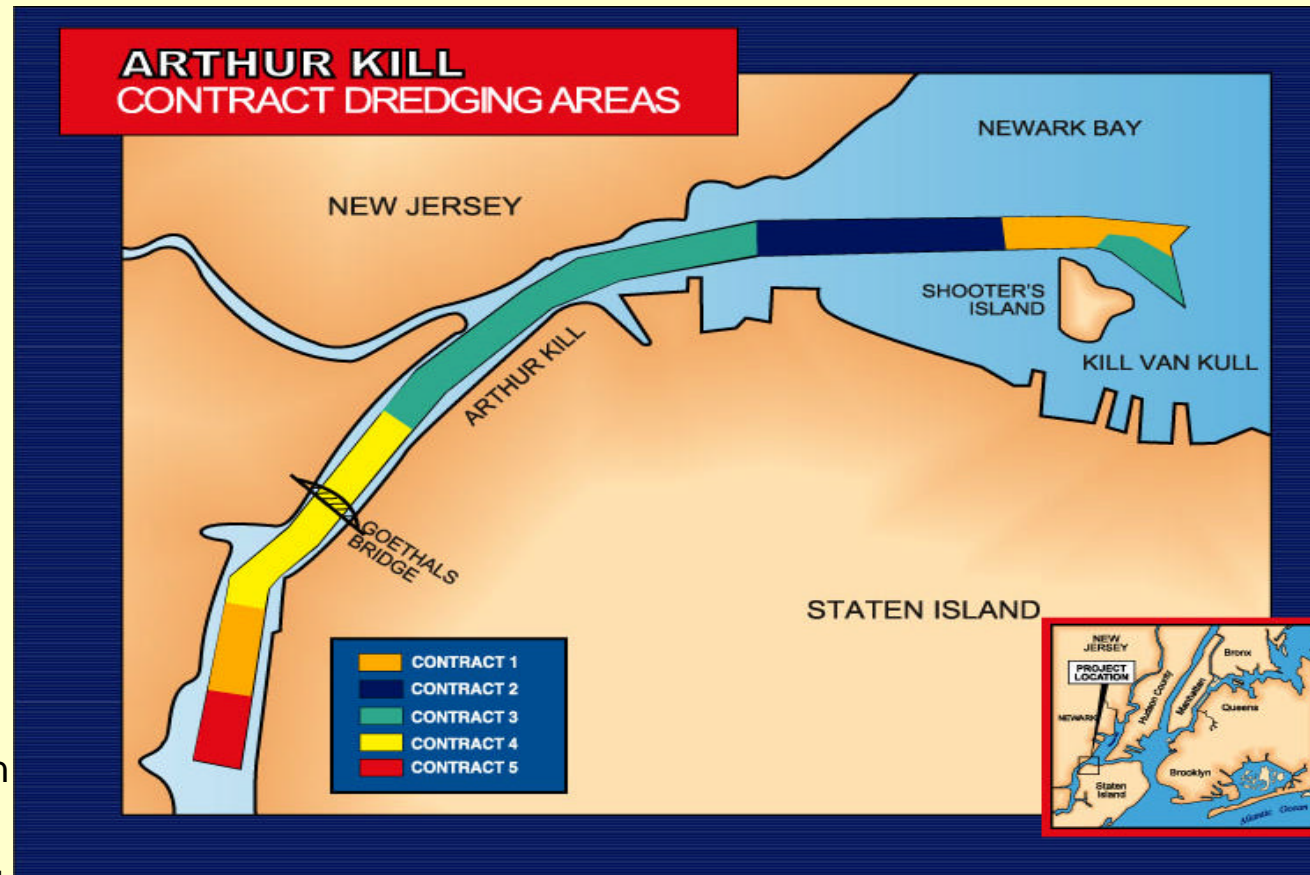
Project Manager, 212-264-9092



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# Arthur Kill Channel (41/40 foot Project)

- **DESCRIPTION:**
  - Channel Deepening from 35 ft to 41/40 ft
- **STATUS:**
  - First Construction Contract Award – May 03
  - Solicitation of Contract for Consolidation of Areas 2 and 3 (Fall 03”)
- **PLANNED COMPLETION:**
  - To Howland Hook 2005
  - Complete Project 2007
- **TOTAL PROJECT COST:** \$402 Million
- **SPONSOR:** Port Authority of NY & NJ
- **POINT-OF-CONTACT:** Michael Millard, Project Manager, 212-264-2054



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# Port Jersey Channel 41-ft Project

## DESCRIPTION:

- Channel Deepening from 35/38 ft to 41 ft.

## STATUS:

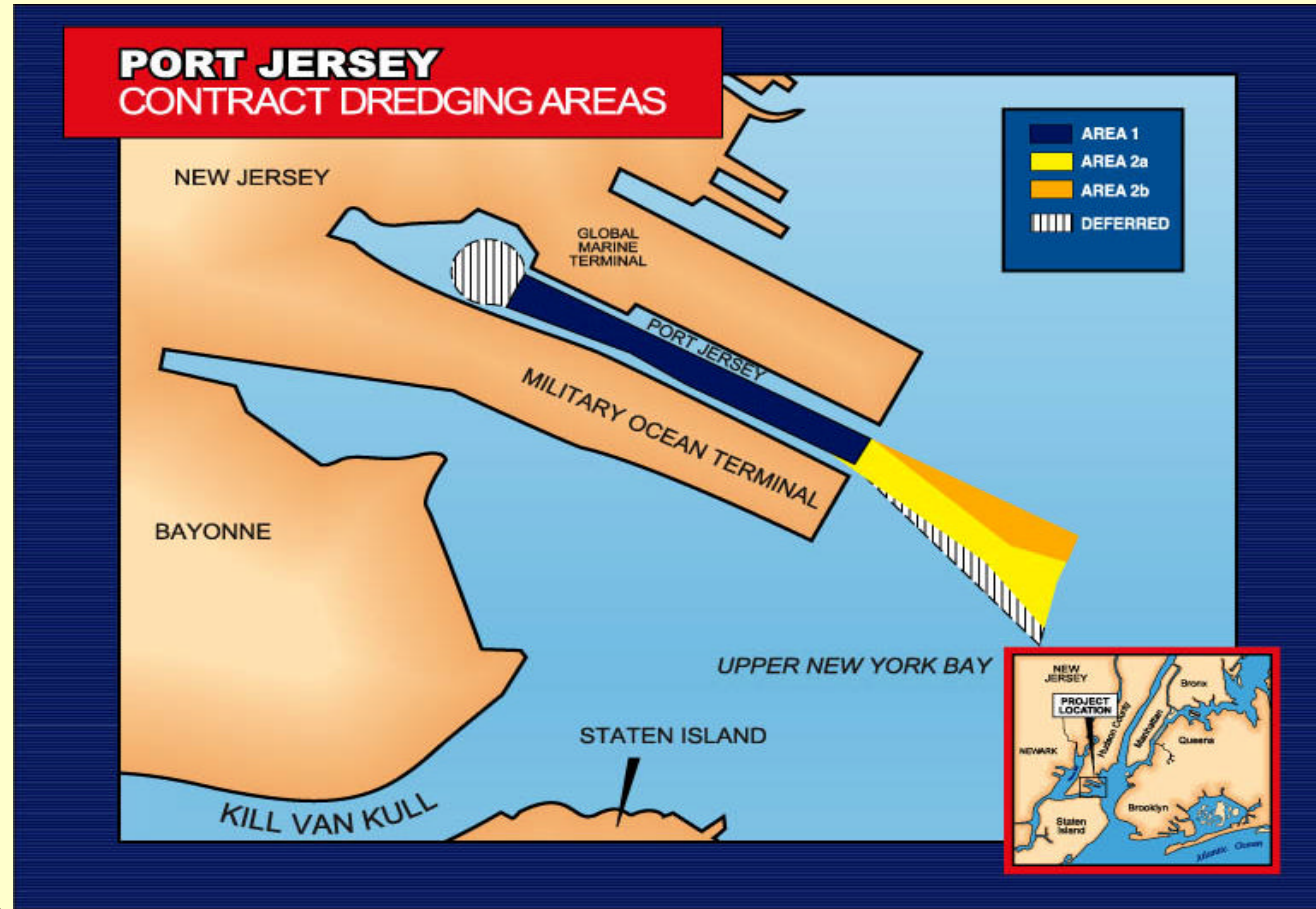
- Contract Area 1 – Initiated Jan 03
- Contract Area 2a – Scheduled for Fall 03
- Contract Area 2b – Scheduled for Spring 04 – ***Will Likely Require an Electric Dredge***

**PLANNED COMPLETION:** 2005

**TOTAL PROJECT COST:** \$119 Million

**SPONSORS:** New Jersey Office of Maritime Resources (primary) & Port Authority of NY & NJ (limited sponsor)

**POINT-OF-CONTACT:** Bryce Wisemiller, Project Manager (212) 264-5797



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# The HDP Recommended Plan

**DESCRIPTION:** Deepen the Ambrose Channel to 53 ft, the Anchorage, Bay Ridge, Port Jersey, Kill Van Kull, Newark Bay and Arthur Kill to Howland Hook to 50 ft (52 ft in hard substrates)

**STATUS:**

- WRDA Authorization – Dec 2000
- Design Agreement Executed with PA – Jan 01
- New Project Management Plan-Jan 03
- PCA execution schedule – May 04
- Construction scheduled to begin in Fall 2004

**FUNDING:**

- Total Project Cost: \$1.8 billion
- Total PED Cost: \$20 million

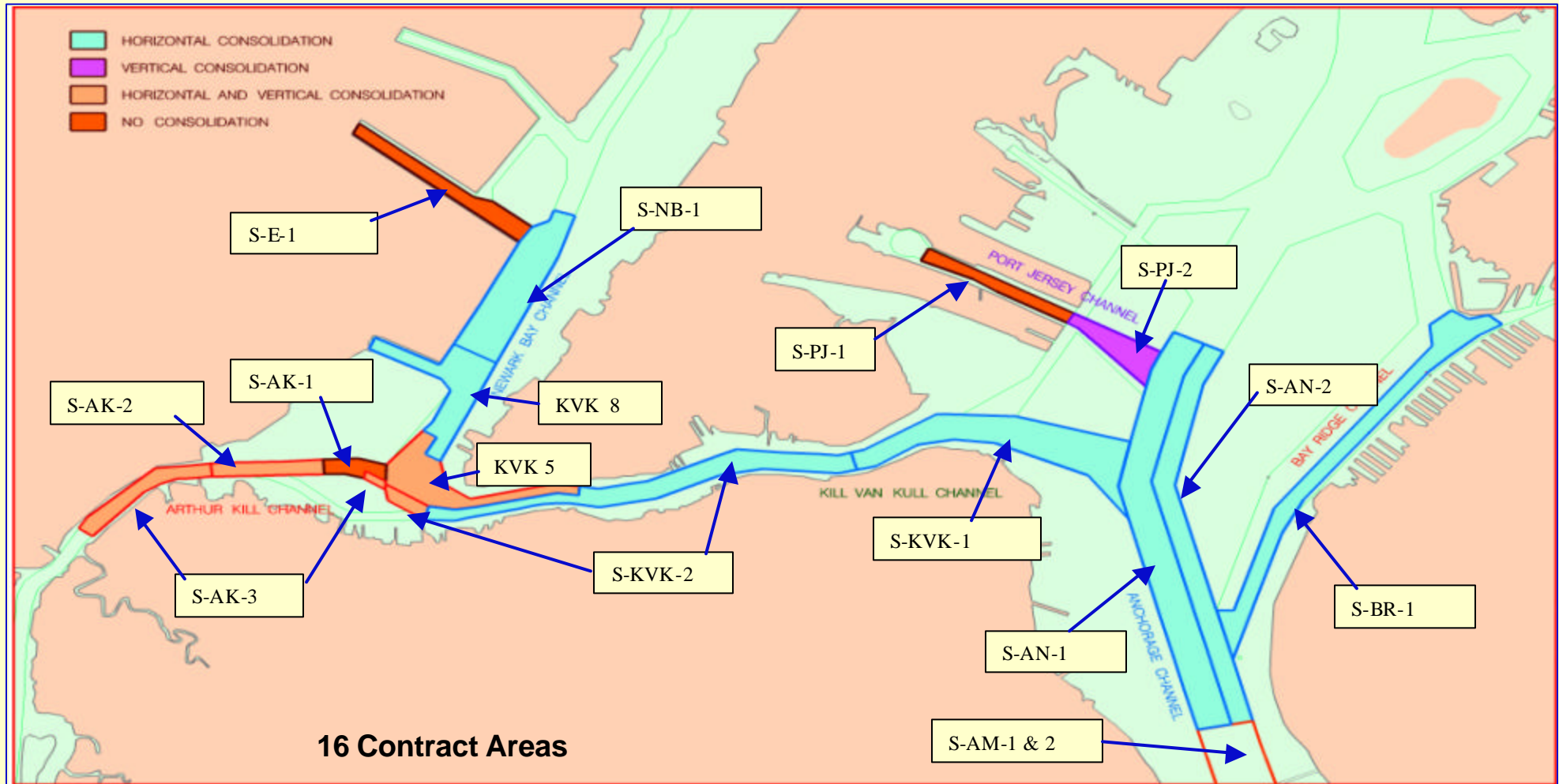
**SPONSOR:** Port Authority of NY & NJ for Engineering, Design and Construction

**POINT-OF-CONTACT:** Tom Shea, Project Manager, 212-264-5570



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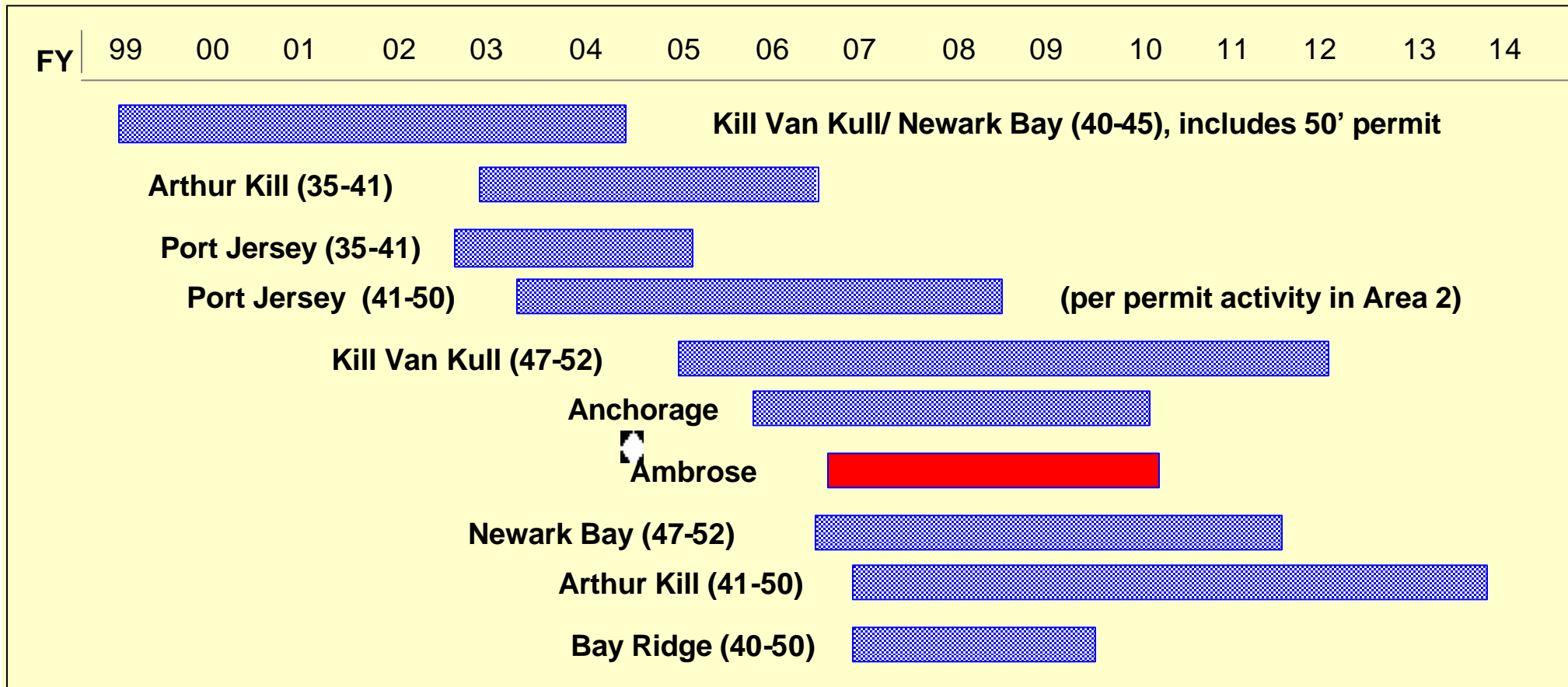
# Construction Contract Areas



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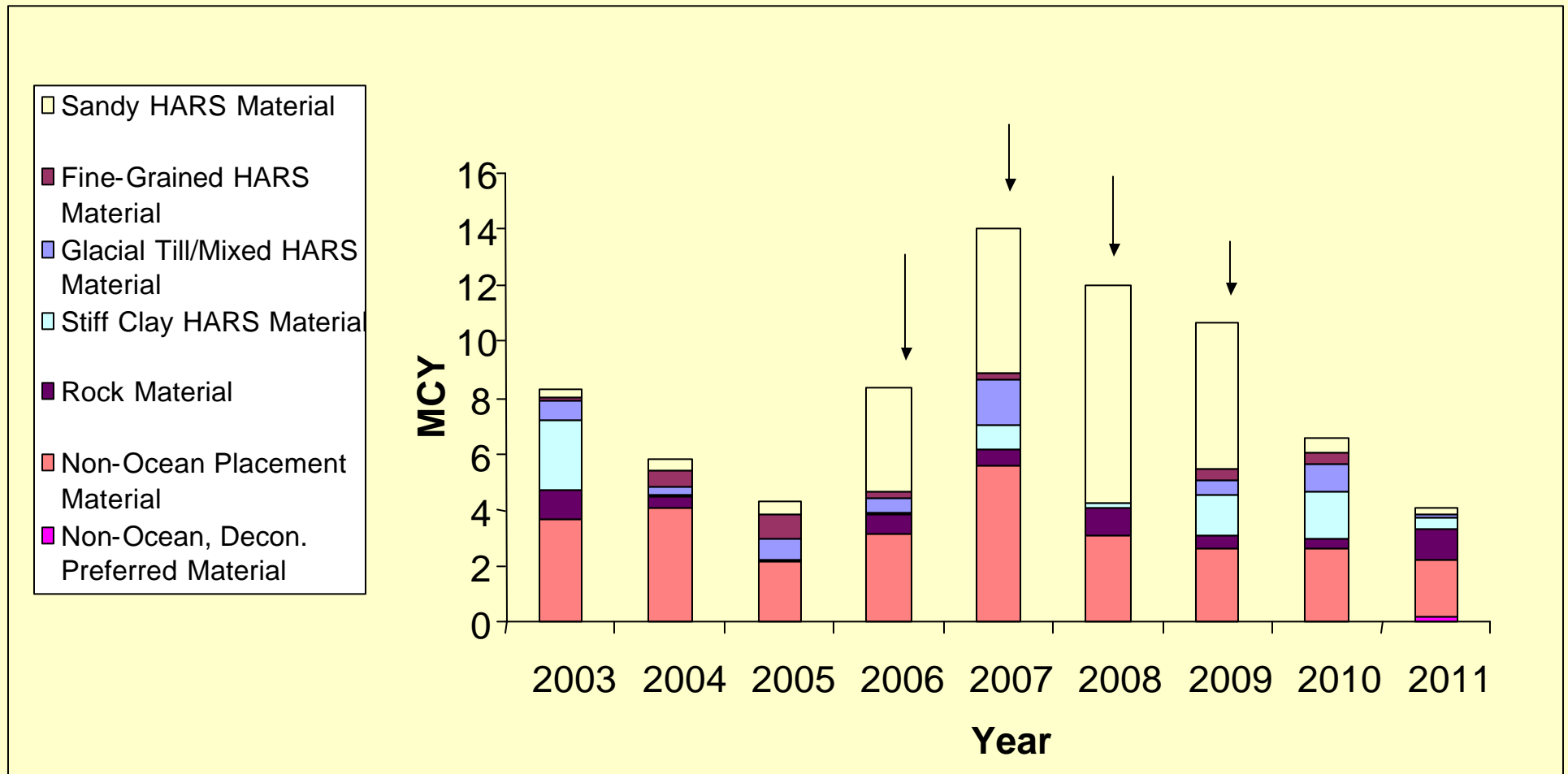


# Consolidated Schedule 50-Foot Project



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# Material Removal by Year



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# Upland Placement Options

- Landfill Capping
- Construction Aggregate
  - Cement, Fill
- Beach Nourishment



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# Environmental Restoration Opportunities

- NJ Meadowlands Sites
- Brownfields Site Capping
- Pennsylvania Coal Mines / Strip Mines
  - Component of Bark Camp Reclamation Project



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**John McLaughlin**

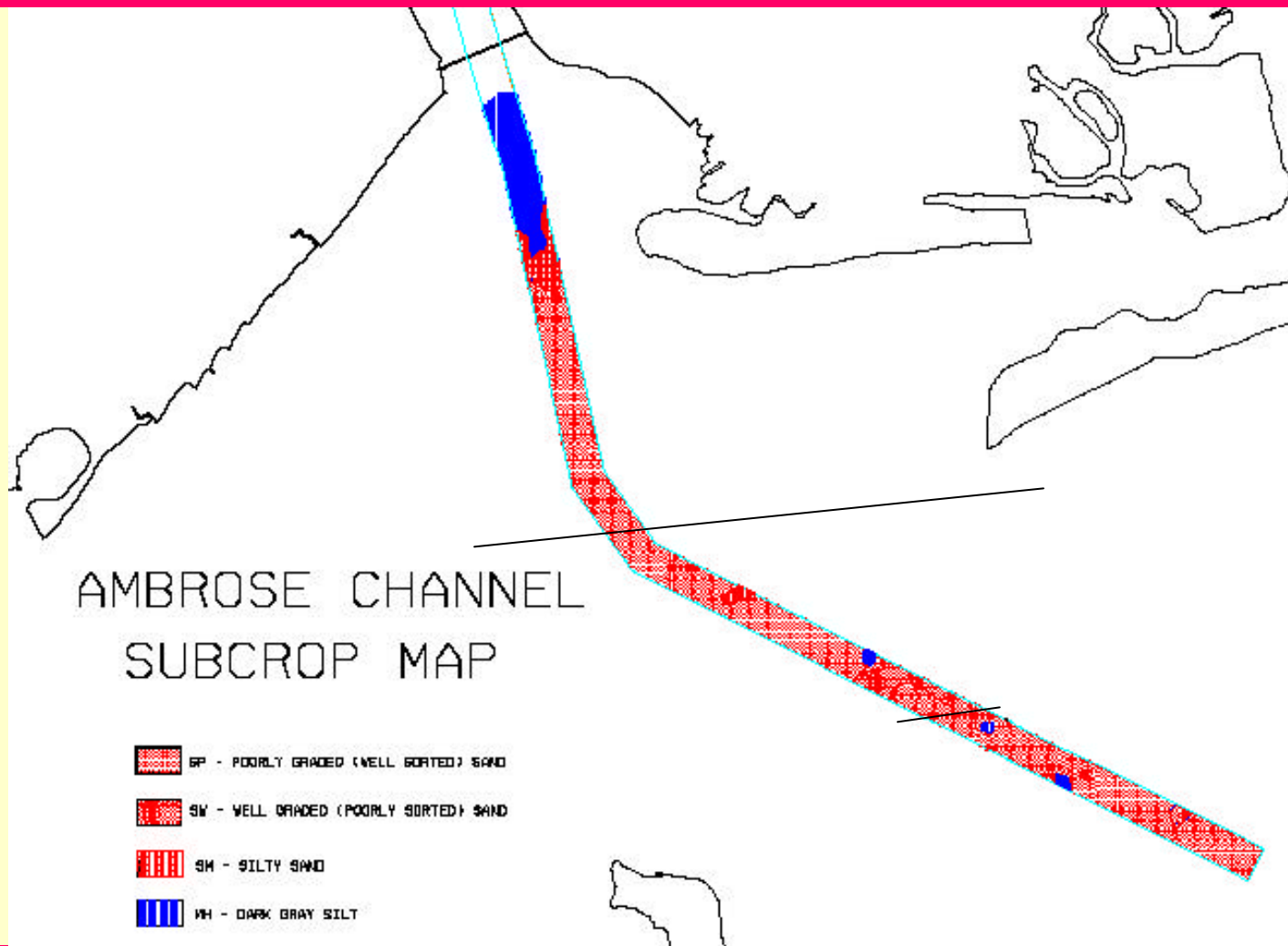
New York City Department of  
Environmental Protection



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# Ambrose Channel Subcrop



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# Ambrose Channel Volumes

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**TO BE DREDGED (including side slopes):**

To elevation of – 53.0' MLW	=	6,955,000 cu. yds.
Overdepth (2.0' average)	=	<u>4,294,000 cu. yds.</u>
Total volume to –55.0'	=	11,249,000 cu. yds.

\*Additional survey data may refine this number...



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# Ambrose Channel Soil Types

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- 90 - 95% Tan to light brown, poorly graded, fine to medium SAND, with a trace of Silt, and a trace of gravel-sized shell fragments (SP)
- ~ 5% Tan to gray, very fine to fine SAND, with little to some Silt and a trace of gravel-sized shell fragments (SM)
- < 5% Tan to light brown, well-graded, fine to coarse SAND, with a trace of Silt, and trace of Gravel and gravel-sized shell fragments (SM)
- < 5% Dark gray to black, slightly organic, SILT and CLAY, with a trace to little Sand, and shell fragments (ML-MH, CL)



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# Ambrose Channel Soil Testing (Avg.)

BORINGS (Samples at or above -53.5 MLW)	Depth (ft) feet	Elevation below MLW (Range)	Gravel %	Sand %	Silt + Clay %	H2O Cont	Dry Unit Wt. (pcf)	Spec Gravity g/cc
AMB 98 (02-06)	0-4	-45.3 to -53.0	2.4	81.4	16.3	32.8	121.8	2.65
AMB 98 (15-68)	0-4	-46.9 to -53.4	0.4	97.3	2.3	15.4	138.0	2.7
AMB 98 (102- 144)	0-4	-46.9 to -52.5	1.4	96.1	2.8	13.3	139.9	



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# Ambrose Channel Material Uses

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## (SP) Poorly Graded Sands

### Embankments and Foundations:

- Reasonably stable, can be used for embankments, dike sections with flat slopes.
- Good to poor foundation properties and good compaction properties when moisture and thickness of lift are properly controlled.

### Beach Nourishment:

- Ambrose Channel sands are a natural extension of Breezy Point to the north and Sandy Hook to the south.
- The high degree of sorting, grain size and low silt and clay content are characteristic of beach sands.



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# Overall Sand Mining Goals

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- Intended to Complement the NY&NJ Harbor Deepening Project (...May '04 to Dec '06)
- Quick delivery of small-to-medium quantities directly to end users
- Commercial Uses - Construction Aggregate & Fill
- Environmental Restoration
  - Large Volume of Usable Sand (approx. 11 MCY)
  - Habitat Restoration/Creation
  - Upland Restoration/Reclamation
  - ***HARS Capping***



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# NYD Sand Mining Goals

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Reduce the cost and  
time of the Harbor  
Deepening  
Project...(\$100M?)

Make sand available for  
beneficial use to the  
region...



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# What we need from you...

- How much/what grain size do you want size?
- When do you want it?
- How would you remove it?
- Where would it go?
- Letter of interest to COE by 15 August 2003 with above info.
- ***The process will be defined by interest and volume...***



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# Questions? Need more info?



POC: Mark Lulka, Project Manager (212) 264-1537



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